

Akira KUROME et al., S.N. 10/595,362
Page 13

Dkt. 1141/76099

REMARKS

The application has been reviewed in light of the Office Action dated September 21, 2007. Claims 1-24 are pending. The Office Action indicates that claim 21 has been allowed. By this Amendment, claims 1 and 3 have been amended to clarify the claimed subject matter, without narrowing a scope of the claims. Accordingly, claims 1-20 and 22-24 are presented for reconsideration, with claim 1 being in independent form.

The abstract was objected to as purportedly too lengthy. The title was objected to as purportedly not sufficiently descriptive. The specification was objected to as purportedly as failing to follow the guidelines for layout in the MPEP.

The application has been reviewed and amended to correct the formal matters noted in the Office Action.

Withdrawal of the objections is requested.

Claims 1-4, 7, 12 and 22-24 were rejected under 35 U.S.C. § 102(b) as purportedly anticipated by U.S. Patent No. 5,864,275 to Ohashi et al. Claims 5 and 14 were rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over Ohashi in view of U.S. Patent No. 5,550,472 to Richard et al. Claim 13 was rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over Ohashi in view of U.S. Patent No. 5,786,695 to Amor et al.

Applicant has carefully considered the Examiner's comments and the cited art, and respectfully submits that independent claim 1 is patentable over the cited art, for at least the following reasons.

Ohashi, as understood by Applicant, proposes a MRI apparatus including an opposed-magnet magnetic circuit assembly.

Ohashi, column 10, lines 25-38 (reproduced below) was equated in the Office Action with a first support member.

As is shown in the figures, the magnetic circuit assembly has two

Akira KUROME et al., S.N. 10/595,362

Dkt. 1141/76099

Page 14

connecting yokes 108, 109 each in the form of a column having a rectangular cross section, by which the upper and lower symmetrical sets each consisting of a back yoke 110 or 115, permanent magnet 111 or 114 and field-adjustment plate 112 or 113, respectively, are connected together both mechanically and magnetically to form a magnetic-field gap space 116 therebetween as assembled by means of the screw bolts 117 and 118.

Thus, it is clear that Ohashi, column 10, lines 25-38, proposes components for forming a magnetic circuit and for passive-shielding, that is, yokes 108, 109, back yokes 110, 113 and screw bolts 117 and 118. These components are by no means a first support member for supporting the gradient magnetic field generating unit from the facing surface side of the static magnetic field generating unit. More specifically, the back yokes 110, 115 are disposed not at the facing surface side but the opposite side of the static magnetic field generating unit. The yokes 108 and 109 do not support the shim tray and the gradient magnetic field generating unit, but rather support a pair of static magnetic field generating units so as to face each other.

Elements 117 and 118 in Ohashi are equated in the Office Action with the second support member.

However, elements 117 and 118 in Ohashi are screw bolts as evident from Ohashi, column 10, lines 25-38 (reproduced above), and are not a second support member for supporting the shim tray from the facing surface side of the static magnetic field generating unit.

Therefore, Ohashi does not render unpatentable claim 1 of the present application.

Richard and Amor were only cited against dependent claims in the application, and do not cure the deficiencies of Ohashi with respect to claim 1 of the present application.

Richard, as understood by applicant, proposes a magnetic resonance apparatus wherein magnets are disposed in a toroidal housing for defining a temporally constant magnetic field through a central bore of the toroidal housing, a radio frequency coil is

Akira KUROME et al., S.N. 10/595,362
Page 15

Dkt. 1141/76099

disposed in the bore, a radio frequency shield is disposed around the radio frequency coil, segmented ferrous material is disposed in annular rings around the bore, and the segmented ferrous material rings are disposed between the radio frequency coil and the radio frequency shield.

Amor, as understood by applicant, proposes a magnetic resonance apparatus having a structure wherein the gradient magnetic field generating unit (40) is placed in a bore of the cylindrical static magnetic field generating unit, where the gradient magnetic field generating unit (40) has a primary coil assembly (42) and a secondary coil assembly (44), and the shim tray (62) is placed between the former (46) of the primary coil assembly and the secondary coil assembly (44), and supported by the secondary coil assembly (44). The structure of the static magnetic field generating unit of Amor is different from the invention in that the shim tray is not supported by the static magnetic field generating unit.

The secondary coil assembly (44) shown in FIG. 13 of Amor is equated in the Office Action with the first support member. However, the secondary coil assembly (44) in Amor is not the first support member but a part of the gradient magnetic field generating unit.

Richard and Amor, like Ohashi, do not disclose or suggest a first support member for supporting the gradient magnetic field generating unit from the facing surface side of the static magnetic field generating unit, and a second support member for supporting the shim tray from the facing surface side of the static magnetic field generating unit, as provided by the subject matter of claim 1 of the present application.

Accordingly, for at least the above-stated reasons, Applicant respectfully submits that independent claim 1 and the claims depending therefrom are patentable over the cited art.

Further, the cited art fails to disclose the air gap structure of claim 3 of the present application.

The static magnetic field space is the space between the gradient magnetic field

Akira KUROME et al., S.N. 10/595,362
Page 16

Dkt. 1141/76099

generating unit or shim tray of one of the pair of the static magnetic field generating units and the gradient magnetic field generating unit or shim tray of another of the pair, and is not the air gap structure recited in claim 3. The air gap is clearly defined as the gap (space) provided between the static magnetic field generating unit and the shim tray and between the shim tray and the gradient magnetic field generating unit at each side of the static magnetic field generating unit.

Ohashi does not teach such gaps.

Amor proposes a structure having an air gap. However, in the structure proposed by Amor, the secondary coil assembly (44) of the gradient magnetic field generating unit (40) is placed between the shim tray and the static magnetic field generating unit. Such structure is different from the three-layer structure consisting of the static magnetic field generating unit, shim tray and gradient magnetic field generating unit of claim 3 of the present application.

The Office Action indicates that claim 21 has been allowed, and claims 6, 8-11 and 15-20 were objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant appreciates the statement of reasons for allowance and the statement of reasons for the indication of allowable subject matter, in the Office Action, and submits that the pending claims of the present application recite subject matter which further supports patentability for reasons in addition to those identified in the Office Action.

In view of the remarks hereinabove, Applicant submits that the application is now in condition for allowance, and earnestly solicits the allowance of the application.

If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition. The Patent Office is hereby authorized to

Dec-21-07 10:32pm From-

+212-391-0631

T-356 P.018/018 F-317

Akira KUROME et al., S.N. 10/595,362
Page 17

Dkt. 1141/76099

charge any fees that are required in connection with this amendment and to credit any overpayment to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,


PAUL TENG, Reg. No. 40,837
Attorney for Applicant
Cooper & Dunham LLP
1185 Avenue of the Americas
New York, New York 10036
Tel.: (212) 278-0400